

Street Sweeping Audit

September 2006



**Internal Audit Division
Office of the City Manager
City of Cincinnati**

**Mark T. Ashworth
Internal Audit Manager**

**Lauren Sundararajan
Lead Internal Auditor**

Table of Contents

Executive Summary	1
I. Introduction	
Background	2
Scope and Methodology	2
II. Findings and Recommendations	3
III. Response from Public Services	14

Executive Summary

This report examines and evaluates the power street sweeping program to determine compliance with significant terms and conditions under the employee bid.

In March 2004 the Neighborhood Operations Division (NOD) began sweeping the City streets under the new sweeping program that was awarded to them under managed competition. From the beginning NOD had problems complying with the employee bid. NOD proposed four specific changes in the operation of street sweeping in their bid. The first change was to transition from owning their sweepers to enter into a lease/purchase agreement with an outside vendor. The second was to deputize a Public Services employee to collect revenue on cars illegally parked during street sweeping hours. The third change was to develop a computerized tracking database and the fourth change was to create a union-management team to meet on a regular basis to discuss street sweeping issues. NOD did enter into a lease/purchase contract with an outside vendor, Jack Doheny Supplies Inc., and has been satisfied with the results. However, NOD failed to deputize an employee to collect revenue from illegal parking, NOD did not develop a workload tracking system to monitor which streets were swept, and a union-management team does not meet on a regular basis to discuss and resolve street sweeping issues.

The Request for Proposal (RFP) required a Global Positioning System (GPS) be used in each sweeper. Although NOD has GPS available to them, half of the units are down or not working properly. Collecting data from GPS would be beneficial to NOD. NOD could then determine where the street sweepers are at all times, how fast they were moving, and if the brooms were up or down.

NOD has not developed routes for their street sweeping program. IAD found that the lack of routes is an inefficient way of sweeping streets. For example, we found different street sweeper operators were sweeping the same streets on the same day or the next day. Further, IAD found that other cities post their routes/streets to be swept on their websites to inform residents of when street sweeping is to occur. The City of Cincinnati does not.

In November 2004, NOD proposed to change curb miles to sweeping miles, because they stated that it took them 2.5 passes per street to clean the residential streets. In 2005 all miles were tracked in sweeping miles. IAD wanted to determine if NOD was in compliance with the RFP and calculated the sweeping miles back to curb miles. The RFP requires NOD to sweep 7,776 curb miles each year. In 2005 NOD swept between 3,300 and 4,900 curb miles, approximately half of what was required of them.

IAD also found that the financial controls for the street sweeping program were weak and to determine the 2005 program cost was not an easy task. IAD brought this to the attention of NOD management, and adjusting entries were made to internal financial reports. Although NOD came below their 2005 budget of \$683,040, they swept half the miles that were required of them in the residential areas. In addition, equipment costs are going to double over the next three years if NOD chooses to continue the lease agreement with Doheny. NOD needs to consider all of these variables when developing their 2007 budget for street sweeping in order to get an accurate cost for the program.

I. Introduction

Background

The Power Street Sweeping Operation is a function of the Neighborhood Operations Division (NOD) under the Public Services Department. In December 2002, the City issued a request for proposal (RFP), under the managed competition process, for power street sweeping. The deadline for submitting proposals was February 2003. Four proposals, including one from the City of Cincinnati, were submitted. An RFP selection committee performed an extensive evaluation and awarded two contracts. The City of Cincinnati employee team was awarded what essentially amounted to the Over-the-Rhine (OTR) and residential streets. Contract Sweepers & Equipment, Inc. was awarded the nightly sweeping of the Central Business District (CBD) and the weekly sweeping of the Neighborhood Business District (NBD).

The awarded contracts were to begin in August 2003 and continue for three years ending August 31, 2006. Contract Sweepers & Equipment, Inc., commenced sweeping the CBD and NBD on August 1, 2003. NOD did not commence sweeping under their terms of the contract until March 2004, approximately eight months after the awarding of the contract. The equipment and lease were blamed for the delay (see discussion below regarding Jack Doheny Supplies, Inc.). According to NOD management, between August 2003 and March 2004 the streets were swept under the former approach.

NOD discussed in their bid the need for a Sweeping Operating Agreement, because the managed competition process did not allow the City of Cincinnati to enter into a legally binding contract with itself. The Operating Agreement would be a formal, written agreement to complete the plan and sustain the necessary resources for the three years under the program. A street sweeping operating agreement was never developed and signed between the employee team and the City.

Audit Scope and Methodology

IAD was asked to evaluate how the street sweeping program has performed and if the City was successful in its awarded contract.

Audit methodology consisted of the review of the RFP for power street sweeping and the employee bid, interviews with staff members, including supervisors and the division head. In addition, we reviewed and evaluated daily street sweeping logs and researched on-line street sweeping programs in other comparable cities.

IAD conducted fieldwork for the audit from April 2006 to June 2006. The audit was conducted in accordance with generally accepted government auditing standards (GAGAS).

Scope Limitations

IAD concentrated the audit on the first shift street sweeping done by NOD. IAD did not review Contract Sweepers & Equipment, Inc., to ensure they were in compliance with their contract with the City. NOD indicated to IAD that they met with Contract Sweepers & Equipment on a limited basis, complaints were minimal and there were no service order changes or additional change orders. IAD was told that the contractor performed the entire required street sweeping for the agreed upon price. Therefore, IAD did not include them as part of the work plan. In addition, IAD did not review the contract with Doheny, the provider of street sweeping equipment.

II. Findings and Recommendations

Compliance with Employee Bid and RFP

The employee team bid proposed four specific changes in the operation of street sweeping. The first proposed change was regarding fleet management, maintenance and utilization. NOD suggested that they no longer own the equipment and enter a lease/purchase contract with a vendor who specializes in providing and maintaining power street sweeping equipment. NOD entered into such a contract with Jack Doheny Supplies, Inc.

NOD explained how the lease/purchase agreement with Doheny would work in their employee bid. First, they would sell their existing sweeper fleet at an agreed-upon price. After selling their sweepers they would enter into a lease/purchase, applying the trade-in dollars for the existing fleet to the lease/purchase. NOD also would purchase extended warranties on all the new units so that Doheny would maintain the fleet except for preventive maintenance, wear items, and damage. An extended warranty would also require Doheny to provide them with a spare at no extra charge when a sweeper is out of service for repairs, guaranteeing 100% fleet availability. Previously, sweeper availability was an issue, the sweepers were often down for repairs and the City did not invest in and maintain a fleet of spare sweeping equipment. According to the employee bid, the average sweeper availability for 2000 was 57%, for 2001 it was 49% and for 2002 it was 63%. After three years, about the time sweepers need major repairs based on industry standard, NOD would sell the fleet back to Doheny at a guaranteed trade-in price and then enter into another round of lease/purchase of sweepers. Historically street sweeping equipment becomes increasingly more expensive to repair and less dependable after about three years in service.

NOD management stated that a key factor in the employee bid/contract was to operate a sweeper fleet whose average age was less than three years. They have been satisfied with Doheny since the start of the contract and have had 100% fleet availability as stated in the employee bid. The problem NOD faces is at the end of the contract in August 2006. When NOD sells the sweepers back to Doheny, the down payment will be less; which will cause the payments on the new sweepers to be higher. To own the equipment at the end of the contract the City would owe a balloon payment of about \$300,000. Should the balloon payment not be exercised, NOD will have to enter into a new leasing contract. Projected lease payments will rise from the current

\$82,028 annually to approximately \$194,354 annually. This is a substantial increase which will directly lead to increased street sweeping costs.

Recommendation 1. NOD should do a cost analysis to determine what the price of the sweepers will cost, including repairs, to decide if they should continue their contract with Jack Doheny Supplies, Inc.

Department Response: *Department Agrees.*

The Department completely agrees with this recommendation and has conducted a review that concluded we should continue the lease agreement. This review showed that it would be in the best interest of the City to extend the current lease through August of 2007 and then prepare an RFP for a new lease in August of 2007. The transmittal of the department's 2007 budget request included an issue paper that identifies this plan and a copy is available at Public Services. Necessary changes to our budget will be transmitted to our budget analyst as soon as we receive a proposal and our response to the audit is reviewed.

The second proposed change in the employee bid was regarding effective enforcement and revenue generation. NOD, in order to improve sweeping services and promote service quality, proposed to assume the responsibility for the ticketing and towing of vehicles parked illegally in the path of City sweepers. As an added benefit, the procedures would generate revenue to help support the power street sweeping program. The employee bid also stated that NOD employees would be deputized to be able to issue citations to vehicles parked illegally and that they would contact a towing company and have the vehicle impounded. Further, net revenues from the citations, towing and impoundment would be placed in a newly created restricted fund.

According to NOD management, they were unable to deputize NOD employees and any funds that could be collected would not be routed into a restricted fund for power street sweeping. This information should have been researched prior to inclusion in the employee proposal. IAD found that the City of San Diego has been ticketing and towing vehicles in the way of power street sweeping, and from July 2005 through May 2006 they collected a total of \$3,200,000 with 80,000 citations at \$40 each. In addition, they have 10 parking enforcement officers who work within the same city department.

Recommendation 2. NOD should budget for parking enforcement officers so that illegally parked cars are ticketed and removed so that efficient and effective street sweeping can be performed.

Department Response: *Department Agrees.*

The Department agrees that it did not implement the use of an extra enforcement official or utilize its own staff for the issuance of civil citations for parking on posted streets. The Department did work with the Law Department to get an ordinance passed to allow the civil citations (copy of the ordinance is available at Public Services) and also included a parking enforcement position within its budget for 2005/2006. Unfortunately, the Budget Manager and the Director of Finance could not agree on how to fund this position. Consequently, there is a position in our budget request with no funding available for it. It therefore remains empty and the Department will continue to try to get this resolved within the 2007/2008-budget process.

The department will also look within our own organization to see if we have other staff available that can serve this role.

The employee team bid did not include any revenue from such a proposal, as it could not be guaranteed. In retrospect, the employee team bid should have only mentioned that the team would thoroughly investigate this option and produce formal recommendations by a given date since its authority was limited for enacting the proposed changes.

The implementation of an aggressive towing practice within the City of Cincinnati for street sweeping purposes could be an extremely politicized issue. It would be incumbent upon the City Administration to clearly identify the need for such a program to City Council and the public through a series of public meetings, for this concept to avoid significant citizen objection and elected official disdain. The City of Cincinnati has historically utilized vehicle towing only when 1) the safety and efficiency of traffic flow, or the movement of emergency vehicles, is or would be inhibited, 2) to remove non-working vehicles, or 3) to clear areas where construction activities or special events require the use of the street.

A more reasonable approach is to improve the effectiveness of the ticketing and fining process, and to clearly post streets as needed. Those streets swept nightly generally do not require posting. Those streets swept on a regular weekly cycle can be posted with permanent signs. Those streets swept less frequently than once per week need to be posted with temporary signs.

The third proposed change was to develop and implement a computerized database that would systematically track key information related to sweeping services and customer/stakeholder feedback. Included in this system, but not limited to, they would have the number of curb miles per operator per shift, equipment mileage, areas swept by shift/operator, sweeping conditions, special requests, and customer feedback.

Under the “General Description of Current Program” contained within the RFP it states: “Cincinnati makes use of Global Positioning System (GPS) on its sweepers. A GPS is a mobile intelligence gathering and reporting system, using wireless communications, to track the location and movements of the street sweeping equipment.”

Furthermore, the RFP also required the Global Positioning System (GPS) to be used in each sweeper for the life of the contract. NOD management has not utilized GPS in its fleet and has not utilized it in its management of power street sweeping. The City of San Diego utilizes GPS and the street sweeper supervisor receives feedback every 10 seconds. He knows where the sweepers are at all times and under what conditions they are operating. When a resident calls in to inquire if their street was cleaned the supervisor can tell them when it was swept, how fast the sweeper was traveling and if the brooms were up or down.

NOD does not have the data available to do the proper analysis and create reports on water usage, how much debris was removed, miles swept, etc., to analyze which streets need to be cleaned more or less frequently. A working GPS would be beneficial for NOD to do the analysis they need to be doing in order to clean the streets in the most effective way.

Recommendation 3. NOD should immediately deploy GPS equipment and utilize that data in a manner that will lead to better and more efficient management.

Department Response: *Department Agrees.*

The Department has all GPS devices presently reporting and has altered the polling rate (time lapse between reports) to once per minute. The Department has also required the contractor to place GPS devices on the sweepers, and that copies of the GPS operation reports are submitted with the contractor's monthly billing.

The Department is also linking the GPS output to CAGIS and will use mapping on this tool to review daily routings, create a historical database, and over time generate data that will be used to optimize the sweeper assignments.

The fourth proposed change was the creation of a union-management team of NOD managers and operators who would initially undertake three high priority projects: cross-training other NOD employees to be able to operate sweeping equipment, employee accountability and productivity improvements including the establishment and implementation of new standards for measuring employee performance, and to ultimately shift toward self-directed work teams. Teamwork and ownership of the work output was a goal. In addition to these priorities the union/management team planned on meeting regularly to undertake other projects such as increasing route efficiency and remote parking of sweepers. Meeting minutes provided by NOD management shows that the team met in 2004, but has not met in the past two years.

Recommendation 4. NOD managers and operators should meet on a regular basis as stated in the employee bid in order to identify improvements to the power street sweeping program.

Department Response: *Department Agrees to Reestablish Meetings.*

The Department disagrees with the statement that it did not hold formal meetings between the employees and management to discuss the sweeping effort. Agendas for these meetings are available for review at Public Services. The need for the meetings gradually decreased as the program settled into a routine after the change order was approved. Late in 2005 and for most of 2006 issues relative to the street sweeping program were discussed, as they came up, in the Labor Management Committee (LMC) forum. The Department did not utilize a separate sub-committee for this express purpose during that time. It will become necessary to hold these meetings again now that it is likely that a new proposal will be needed in 2007.

Street Sweeping Routes

The City of Cincinnati describes the different programs for street sweeping and the number of curb miles needed to be swept in Section IV of the RFP titled Scope of Services. The Residential Street Sweeping (RSP) program services 31 community areas, and selected streets within each community shall be swept at least three times per year. The Central Business District (CBD) program targets the downtown area including Over-the-Rhine (OTR) and is

swept on a nightly basis. The Corridors Street Sweeping program provides street sweeping on certain major corridors and is swept once a month. Greater Cincinnati Clean-Up (GCCU) targets 14 community work areas and on average this program visits each community four separate times per year. The Neighborhood Business District (NBD) is swept once per week. The Neighborhood Improvement Program (NIP) targets 31 community work areas, and on average this program spends one week per year in each of these communities.

In awarding the work, the RFP committee split CBD and OTR. As stated above in the background, the employee team was awarded OTR and the residential sweeping. Prior to the RFP and the bid process, NOD cleaned the streets on an “as needed” basis and did not track the work in terms of curb miles swept. NOD did, however, perform all street sweeping on the City streets for at least 50 years. City management drafted the RFP for street sweeping services based, in large part, on the knowledge and experiences encountered over the many years of sweeping the streets. The measure of output required in the RFP was curb miles swept. A curb mile is clear and easily defined. City streets and curbs are identifiable and certainly a fair measure, since it is the debris primarily located along the curbs that are to be cleaned regularly.

After receiving the award of the contract, NOD management had difficulty calculating the curb miles as specified in the RFP and contract. According to a memo dated November 18, 2004 to Dennis Meyer, Superintendent, NOD, from the Employee Sweeping Team, it is stated that “The system we currently have available to capture and calculate curb miles is very time consuming, tedious and prone to error...” NOD claimed it did not have the resources to report work output in that manner. Further, NOD stated it took them on average 2.5 passes per street to clean the streets to achieve an acceptable result. In November 2004 the employee team wrote a proposal to change curb miles to sweeping miles for the various programs with the approval of the Innovative Services Solutions Manager and the Director of Public Services. There was no attempt in the City proposal to alter the output mileage measure. IAD’s position is that the number of passes a street sweeper makes is irrelevant. It is cleanly swept curb miles that are expected.

Recommendation 5. NOD should report all swept streets in accordance with the contract, curb miles. This measurement will ensure that all the required miles per the RFP and their bid are being swept.

Department Response: *Department Disagrees.*

The decision on pricing for street sweeping productivity depends greatly on the frequency of sweeping. This is clearly shown in the differences between the per curb mile bids for the daily sweeping within the Central Business District and the much less frequent sweeping on the residential streets. The employee team bid for the residential program was \$34 per curb mile while the closest private competitor bid \$280 per curb mile. This factor deserved more attention in the audit report. The employee team bid was put together with some expectation that there would be an overall award. The City expected some economies of scale that were not realized and was forced to adjust its proposal to match, as best as was practical, the resources provided to the program. This became the requested “change order” as indicated in the November 29, 2004 request, which was approved as indicated in the audit report. Any change back to the use of curb miles should only occur if a new RFP and proposals are requested.

It is also recommended that any future managed competition in the street sweeping function be established in a way to provide an “apples to apples” comparison for services. Given the current arrangement, one cannot be assured of the proper pricing for infrequent sweeping. It is the Department’s belief that the pricing as reconfigured for swept miles is competitive, and that the inability to complete curb miles as indicated within the audit report is directly related to the lack of resources to achieve that desired result.

NOD was sweeping residential areas once per year prior to 2006. However, per the bid and the RFP it is stated NOD should clean the residential area three times per year. Since NOD had not achieved the intended miles to be swept, the street sweeper supervisor made the decision to revert to an approach utilized prior to the contract. This approach is on a neighborhood-by-neighborhood basis, making a complete pass through each and every street. This approach is reported to sweep all streets four times a year. Fieldwork and document review conducted by IAD suggests this method will not achieve the intended results of sweeping all city streets four times in 2006.

IAD found that NOD does not have routes developed to sweep the residential streets. This is an ineffective way to sweep streets. Other cities such as Austin, Portland, San Diego, Concord, and Columbus have routes/streets posted on their web sites so residents know when their street will be cleaned and are responsible for moving their cars in preparation of the street sweeping.

Recommendation 6. NOD should develop routes for the residential areas and post the routes/streets on the City’s web site so residents will know when their street is to be cleaned.

Department Response: *Department Partially Agrees.*

The concept of routing sweepers on residential streets does have merit but was not part of the employee team bid or required by the RFP. The employee team believed its approach to scheduling, which developed from input from its citizenry first, and then completed sweeping miles nearby, was preferable to adhering to strict routes and schedules.

The employee team used the Neighborhood Improvement Program (NIP) schedule to proactively guide sweeping efforts. The NIP inspector performed street-by-street inspections of every community over an 18-month rotation schedule, looking for dirty streets and other right-of-way maintenance issues. Since February 2006, 75% of all sweeping service requests came from the NIP inspector resulting in the routing of sweepers where they are most needed.

Information collected as a result of routing could be used to determine the frequency with which these streets should be swept and allow more consistent scheduling within the neighborhoods. If it is desired to fix routes, then this should be made a requirement of the next RFP. The employee team will carefully consider this concept and provide their recommendation by December 15, 2006.

The Public Services operations crew leader is responsible for managing the street sweeper operators. Each day the crew leader highlights the streets that are to be posted for street sweeping. A NOD employee is responsible for posting the street sweeping signs with parking

restrictions on the designated streets. On average, there are four street sweeper operators that perform residential sweeping daily. They are given the assigned streets to clean and are expected to clean additional streets when their assigned streets have been completed. The term “free-lance” was applied to the expected approach once the posted streets are swept clean. The sweeper operator is responsible for completing a daily log, which has the date, driver, equipment number, the street that was swept, the side of the street swept, if the street was posted, if the curb was blocked, the travel time, the miles swept, total number of dumps and any additional comments. At the time of the audit, the crew leader was not reviewing and signing the driver logs. There was no field presence or review of the streets that were swept.

IAD found that Keep Cincinnati Beautiful (KCB) receives a daily fax from the crew leader identifying the streets that were cleaned the previous day. KCB then will review and rate the streets. According to KCB, once they receive the fax they randomly select streets from the list to review. They rate the streets from one to four with one being the best rating and four as a rating when it doesn’t appear they were swept at all. Most of the time NOD is receiving ratings of one or two, which is considered a pass rating. KCB also rates streets swept by the outside company, Contract Sweepers. Contract Sweepers is responsible for the CBD and NBD, both of which have existing routes. According to KCB, Contract Sweepers also receives high ratings for street sweeping.

A true observation or street rating for cleanliness would be to anonymously select and observe streets throughout the city and rate each street accordingly and inform the city of the street rating. This measure would be a truer rating than the current arrangement of rating specific streets that have just been cleaned 24 hours prior. To say that the city receives high marks for street cleanliness is misleading.

Recommendation 7. NOD management should be responsible for auditing and signing off on the daily street sweeper logs, and going out into the field to determine if the streets were cleaned according to their standards.

Recommendation 8. Keep Cincinnati Beautiful should randomly select city streets to audit and rate for cleanliness instead of auditing streets that were cleaned within the past 24 hours.

Department Response 7 & 8: *Department Partially Agrees.*

There may have been some confusion about the use of Keep Cincinnati Beautiful (KCB) staff. In this program, KCB’s primary role was to verify the quality of our street sweeping effort by independently checking the work to ensure that streets that were reported to be swept were actually clean. This measurement was never intended to give an overall cleanliness rating for the City, and we recommend that this specific street sweeping quality control continue.

The City also uses KCB staff to prepare a city-wide cleanliness index each March. Although the trained observer ratings do not relate directly to street sweeping, the cleanliness of the curbs certainly impact the final scores. The citywide cleanliness index is prepared using a nationally accepted best practice of independent observers to rate 20 percent of the City’s streets, randomly selected by KCB. The random sample is stratified to ensure that different land uses are represented. The observations are conducted by volunteers and include scores for the general

appearance of the area observed. The scoring is based on a scale of 1 (no litter) to 4 (extremely littered). In 2006, the City scored 1.77, which reflects no to slightly litter. This is considered passing. Copies of the reports from KCB are available at Public Services. The department will discuss expanding their role for 2007.

It should be noted that KCB found definite correlations associated with the cleanliness of streets that indicated that some streets have a greater need for sweeping than others. For example, streets with 5-unit or more apartment buildings were dirtier. This information will be reviewed for consideration in future scheduling

Analysis of Driver Logs

IAD selected four neighborhoods, College Hill, Winton Hills, Mt. Airy and Carthage, which were swept during the first quarter of 2006, to review driver logs and measure workload. We reviewed daily sweeper logs for total miles swept. To do so we utilized Google Earth, an Internet program that allows users to measure distances. Using this method we calculated the total curb miles. In addition, we analyzed which streets were swept to determine if the street sweeper operators were effectively cleaning all city streets. IAD found that on several occasions the street sweeper operators were sweeping the same streets at different times. This was not surprising given the lack of routing and the freelance approach. After calculating curb miles IAD found that each sweeper operator is only sweeping an average of 6-9 curb miles each day. We also obtained the parking restrictions request forms for these neighborhoods that list the required streets to be swept each day. NOD requires their street sweeper operators to sweep approximately 2-3 curb miles each day. IAD found that this is a low number of curb miles to require. The City of San Diego, which has a highly touted program, requires their street sweeper operators to clean between 25 and 30 curb miles each day. Perhaps 25-30 curb miles per day in Cincinnati can't be expected due to seasonal and climate differences, but minutes from a NOD union-management team meeting suggest 18 curb miles is an appropriate curb mile goal.

The City has approximately 2,000 curb miles and the goal is to sweep 30,000 curb miles each year per the RFP. The table below shows how many curb miles per year are required in the RFP for each program the City is responsible for, and how many curb miles/sweeping miles the City swept in 2005.

IAD attempted to determine the number of curb miles NOD swept in 2005. This was necessary since NOD has chosen to report miles in sweeping miles. The total curb miles required each year for RSP, GCCU and NIP is 7,776 curb miles. The total sweeping miles swept in 2005 for these programs was 7,710. In addition, NOD management informed IAD that enhanced sweeping should be added to the total miles swept for 2005, which was 2,180; therefore, the total sweeping miles swept was 9,890. IAD found that each sweeper operator sweeps approximately 6-9 curb miles each day. From these calculations IAD concluded that NOD swept between 3,300 and 4,900 curb miles in 2005. The RFP requires 7,776 curb miles.

Total curb miles required each year

Program	Curb Miles
Residential	2,532
GCCU	2,580
NIP	2,664
Total	7,776

2005 actual miles swept

Program	Sweeping Miles	Curb Miles
Residential	2,539	846-1,270
GCCU	2,482	827-1,241
NIP	2,689	896-1,345
Enhanced Sweeping	2,180	727-1,090
Total	9,890	3,300-4,900

Recommendation 9. NOD should develop street sweeping routes, increase the number of curb miles required by street sweeper operators, review and evaluate daily street sweeping and logs to ensure streets are being cleaned according to their standards, and logs are properly completed, to more effectively sweep City streets.

Department Response:

The report indicates numerous occasions where the same streets were swept at different times. The employee team believes that when this occurs, it is generally because cars have moved from a street they just swept or that someone had mowed grass or leaves onto the street after the sweeper passed. The Department will review the same daily logs for these time periods and create a spreadsheet to determine the precise frequency of this observation. Our review to date shows that what appears to be duplication of service may be a planned or normal occurrence. Two sweepers sweep some streets at the same time, or in close proximity to address safety and productivity considerations, such as Kellogg and Hillside Avenues. Also, when more than one sweeper is in the same neighborhood, each may make a pass on the same portion of a through street when traveling to or from posted streets. There are also instances where one sweeper assists another in finishing streets, and will log the same street.

An additional note of caution about productivity numbers being correlated to sweeping frequency. It is generally accepted bidding strategy to apply an overall average of 12 curb miles swept per 8-hour shift. The range of productivity tends to be 8 curb miles per 8 hours shift for very dirty and infrequently swept streets to 25 curb miles swept per 8 hours shift on cleaner streets that are swept daily. The employee team sweepers that sweep daily in Over-The-Rhine have a daily productivity of 15 to 16 curb miles. Also, Elgin, who manufactures the sweepers the City uses, indicates that sweepers should not travel faster than 3 MPH to ensure that they sweep streets cleanly.

The Department recognizes that the City of San Diego has an excellent street sweeping program and will discuss this with them to see if any best practices they use can be applied to the City of Cincinnati's program.

2005 Program Costs

IAD determined the cost of the power street sweeping program for 2005. IAD choose the year 2005, because 2004 was not a complete year under the employee bid since NOD began in March 2004, and 2006 has yet to be completed. IAD found that the financial controls were weak in the beginning of the program and the costs were hard to calculate. According to NOD management, in 2004 street sweeping was budgeted from the storm water fund for both the outside sweepers and the employee team. In the middle of 2004 a new fund was established to track street sweeping. ID bills were done to draw money out of storm water through street sweeping bills to pay for the expenses now being paid out of the street sweeping fund. Adjusting entries were done at the end of the year to re-class any expenses paid out of storm water that should have been paid out of street sweeping.

In 2005 and 2006, street sweeping was budgeted in storm water for both the outside sweeper and the employee team, but the detail for the employee team was budgeted in the street sweeping fund with reimbursements coming from storm water. ID bills for the street sweeping billings were done to draw money out of storm water and all employee street sweeping expenses were tracked in street sweeping.

IAD found that NOD is not properly accounting for employees in the street sweeping fund. For example, there are employees whose home fund is street sweeping, but who worked in different areas in NOD. After IAD brought this issue to the attention of NOD management they did adjusting entries for the 2005-year to correct the accounting error. The table below shows the adjustments.

	Reported in 2005	After adjustments
Total for personal services	\$281,893	\$249,822
Total for fixed charges	\$89,683	\$72,891
Total sweeper billings	\$684,397	\$684,397

Recommendation 10. NOD management should account for employees in the correct fund to get an accurate account of how much power street sweeping is costing the City.

Department Response: *Department Agrees.*

The department staff put great effort into creating a work program using our Maximo software to account and track the sweeping effort. Unfortunately not all employees were trained to fully use this tool. The accounting staff completed a thorough review of the 2005 costs and processed ID billing to completely reconcile the accounts. In 2006, the department will strengthen its accounting controls to require more frequent reconciliation and pursue a simpler method to track personnel reassignments. This will result in a periodic report that will reflect the true costs of the street sweeping program.

IAD found that the cost in the NOD cost accounting system was approximately \$200,000 more than in the CFS system for the year 2005. According to NOD management, the rates are calculated each year and manually inputted into the cost accounting system. Although this is not material to the overall finances in the City, it is to the street sweeping program.

Recommendation 11. NOD should reconcile their cost accounting system to the CFS system on a regular basis to ensure accurate accounting.

Department Response: *Department Agrees.*

The Department agrees that our internal cost accounting system rates within Maximo need to be reconciled with CFS on a more frequent basis. The department will implement accounting controls that require this review, and the inputting of adjustment at least quarterly.

NOD also billed for enhanced sweeping in 2004 and 2005, which were \$33,469.60 in 2004 and \$45,426.94 in 2005. According to NOD management, enhanced sweeping is sweeping that goes over and beyond the employee bid. NOD charges one or two street sweeper operators to enhanced sweeping daily. The enhanced sweeping is charged at an hourly rate and not by curb miles/sweeping miles. However, IAD found that enhanced sweeping is no different than other street sweeping NOD performs on a daily basis. After further discussion with NOD management they stated that enhanced street sweeping is no different from the sweeping required by the RFP. The term “enhanced sweeping” has a specific work description and hourly costs associated with those specific services. These services were not being provided and any charges associated with enhanced sweeping should be immediately discontinued.

Recommendation 12. NOD should not bill for enhanced sweeping when the street sweeper operator is sweeping the required streets per the RFP.

Department Response: *Department Agrees.*

The Department agrees that enhanced sweeping was not different than the sweeper program. For 2006 and beyond, all enhanced sweeping miles and costs will be combined in the street sweeping program.

Given all of the accounting issues and restatements our best guess for the cost of 2005 street sweeping is \$614,852. Although NOD came in below budget, this is misleading due to the fact NOD did not sweep the required miles. Had NOD done so, the cost associated would certainly have far exceeded the budgeted amount. As stated above, the RFP required NOD to sweep 7,776 curb miles each year. IAD found NOD swept between 3,300 and 4,900 curb miles in 2005, approximately half the curb miles they were required to sweep. Therefore, if NOD had swept the required curb miles the cost would have doubled. (Note: IAD believes NOD is sweeping closer to 3,300 curb miles, because of the inefficient routing and multiple street sweeping.)

For 2007, the street sweeping program costs will increase dramatically due to the equipment cost. From 2004 through 2006 the cost for the lease was \$82,028 each year; however, starting in 2007, if NOD decides to continue leasing the equipment from Doheny, the cost for the lease will increase dramatically to \$194,354 each year for three years. NOD needs to realize the extra \$100,000 each year for equipment costs and the extra costs associated with sweeping the required miles when developing their 2007 budget costs for the street sweeping program.

Recommendation 13. NOD needs to collect the appropriate data to determine the actual cost of street sweeping, which can only occur after GPS is installed on all street sweepers and routes are developed. Further, all variables in street sweeping need to be reviewed such as how much

debris is collected, the required frequency of sweeping, and equipment and repair costs. After all the appropriate data is collected and analyzed, NOD can properly budget for the street sweeping program.

Department Response: *Department Agrees.*

A more thorough review of best practices and a confirmation of reasonable daily performance output based on sweeping frequency will allow the City to determine how much sweeping could be accomplished within the given budgeted programs. The Department will also pilot a fixed routing in a particular neighborhood and evaluate if expanding this effort City wide has merit. This background information will be quite useful in developing the next RFP and as indicated in our comments relative to the Executive Summary, a decision to extend the lease has been included in our budget submittal for 2007. This will also be evaluated as a part of a new RFP that will be generated in a time frame to allow a new award and program by August of 2007.

III. Response from Public Services

(Internal Audit Note: All referenced attachments are available for review at the Office of the Director, Public Services)

City of Cincinnati



Interdepartment Correspondence Sheet

September 8 2006

To: Mark Ashworth, Internal Audit Manager

From: Steven G. Bailey, PE, Acting Director of Public Services

Copies: Scott Stiles, Dennis Meyer, Lee Roy Carson, Joe Charlton, Lana Callahan, Kathy Hoehn, Holly Brady, Robert Hall, Tiffany Hardy

Subject: **Department Response to Street Sweeping Audit Report**

The purpose of this memo is to transmit to you the Department of Public Services response to the subject audit. I would first like to commend our employee team for their performance in the first managed competition effort of the Department. Since managed competition began, the employee team increased customer satisfaction as demonstrated by reduced street sweeping service requests. The team was innovative by changing from owned to leased sweepers that guaranteed that the entire sweeper fleet was available each day we swept. Most importantly, the streets we sweep are cleaned to the highest standard indicative of high quality work.

The employee team also coordinated requests for street sweeping service with a proactive program involving community input. This effort ensured that communities of the City get the service they desire in an environment when it is not always possible to sweep every street multiple times per year, due to resource restrictions. The employees of the City who provide this service work very hard to conduct themselves professionally as they serve the public and strive to preserve their jobs. These same employees are also available to the City for a variety of other assignments and emergencies including response to winter operations and Ohio River floods. The City needs to be proud of the effort put forth by these employees who also realize that there are improvements that can be made to make providing the street sweeping service to the citizens of Cincinnati even better.

The audit report places key emphasis on achieving productivity goals. Internal Audit and all readers should understand that the employee team established quality,

customer participation and satisfaction as its key performance measures while continuously striving for productivity.

Our comments relative to the audit are organized by sections of the report as indicated under each heading. I have also included specific comment where necessary for each recommendation.

Executive Summary & Introduction

The employee team proposal included a specification to develop a formal agreement between the City and the employee team. Subsequently the employee team struggled with how best to "contract with itself". The struggle led to the absence of any formal agreement, and instead, the Department adopted the employee team proposal as if it were a contract. Consequently, the employee team did not have normal contractual opportunities to review and approve changes or apply change orders. These needs could have been anticipated since the City had not previously utilized a leasing concept, altered the process for the issuance of parking tickets, effectively utilized GPS to track sweeper performance and had not bid for services. It is very important to note that the concept of leasing and the use of GPS were integral to the employee team's initial submittal and their belief that this was essential to being successful.

The employee team encountered at least three unexpected conditions that contributed to extending the existing sweeping program until March 15, 2004. First, the employee team had to wait for approval of some version of their proposal. Second, the lease agreement was processed using equipment from a State contract. Unexpected delays in the processing the State procurement requirements contributed to the equipment not being in service until December 2003. Third, the Finance Department mandated that the employee team establish an internal service fund to account for revenues and expenses. This was a new requirement requiring additional planning, conversion and training that was not specified in the proposal. GPS could not be effectively deployed until the leased sweepers were in the City's possession. The City did eventually receive the lease equipment and also integrated a GPS tracking system for this equipment.

The City's Innovative Solution System Manager and the Director of Public Services approved in a November 29, 2004 memo an official request from the employee team to change the "bid" performance expectations from curb miles to swept miles. Again, absent a formal agreement, this seemed to be the closest alternative to a change order to the contract. This change was needed because the City team realized that they had made a minor mistake/assumption in their curb mile bid for the residential program. The City team bid below cost per curb mile in an area they knew often took multiple passes, in anticipation of receiving an above cost rate in the Central Business District, thus making their overall bid cover the entire amount of program funding available. This approach assumed that both programs would be awarded to the City. When the Central

Business District was awarded to a private contractor, this pricing strategy was not valid. The employee team was left with the choice of asking for a change order or requesting a re-bid. The employee team asked for a change order that primarily concerned a request for the re-consideration of the use of curb miles for certain portions of the employee team program. The employee team indicated that actual swept miles was a better indicator for those areas that require more than one pass to be swept clean, and that it would be easier to facilitate billing based on this concept. This change was approved by the Director of Public Services and the City's Innovative Solution System Manager who appeared to be the only ones with the authority to grant such a change, or to require a re-bid. Had these changes not been approved, the employee team would have continued to use the curb mile as the basis of payment. This likely would have resulted in dirtier streets and the need for fewer passes to ensure that the curb miles were swept.

The employee team always had the City and its citizen's interests in mind when delivering an excellent service. Although the RFP did not specify the need for fixed routing, the audit report seems to prefer fixed routing to the service request/community preference approach. The City does operate on some fixed routes, particularly within Over-The-Rhine where daily sweeping is required. However, the residential and NIP programs have historically depended on citizen input for the routing of sweepers rather than fixed route assignments. This was more responsive to the specific neighborhood needs and the best application of limited City resources. Had the RFP required a fixed route proposal, the employee team would have submitted their bid in this fashion.

The final comment about this section relates to leasing or purchasing sweepers when the current lease expires. The City carefully considered the status of the lease arrangement, and it is quite clear that continuing leasing, in lieu of full purchase, is in the best interest of the City, from both a financial and equipment availability standpoint. This also makes sense because we are recommending that a new RFP that addresses the audit recommendations be sent out for proposals to be effective in August of 2007. Therefore, Public Services is currently negotiating an extension of the current lease that will be effective through August of 2007. During this time, the City will be requesting options for new lease agreements that would begin in August of 2007, if the employee team is successful in winning the award.

Recommendation 1

The Department completely agrees with this recommendation and has conducted a review that concluded we should continue the lease agreement. This review showed that it would be in the best interest of the City to extend the current lease through August of 2007 and then prepare an RFP for a new lease in August of 2007. The transmittal of the department's 2007 budget request included an issue paper that identifies this plan and a copy is attached. Necessary changes to our budget will be

transmitted to our budget analyst as soon as we receive a proposal and our response to the audit is reviewed.

Recommendation 2

The Department agrees that it did not implement the use of an extra enforcement official or utilize its own staff for the issuance of civil citations for parking on posted streets. The Department did work with the Law Department to get an ordinance passed to allow the civil citations (copy of the ordinance is attached) and also included a parking enforcement position within its budget for 2005/2006. Unfortunately, the Budget Manager and the Director of Finance could not agree on how to fund this position as evidenced by the attached e-mails.

Consequently, there is a position in our budget request with no funding available for it. It therefore remains empty and the Department will continue to try to get this resolved within the 2007/2008 budget process. The department will also look within our own organization to see if we have other staff available that can serve this role.

The employee team bid did not include any revenue from such a proposal as it could not be guaranteed. In retrospect, the employee team bid should have only mentioned that the team would thoroughly investigate this option and produce formal recommendations by a given date since its authority was limited for enacting the proposed changes.

The implementation of an aggressive towing practice within the City of Cincinnati for street sweeping purposes could be an extremely politicized issue. It would be incumbent upon the City Administration to clearly identify the need for such a program to City Council and the public through a series of public meetings, for this concept to avoid significant citizen objection and elected official disdain. The City of Cincinnati has historically utilized vehicle towing only when 1) the safety and efficiency of traffic flow, or the movement of emergency vehicles, is or would be inhibited, 2) to remove non-working vehicles, or 3) to clear areas where construction activities or special events require the use of the street.

A more reasonable approach is to improve the effectiveness of the ticketing and fining process, and to clearly post streets as needed. Those streets swept nightly generally do not require posting. Those streets swept on a regular weekly cycle can be posted with permanent signs. Those streets swept less frequently than once per week need to be posted with temporary signs.

Recommendation 3

The Department has all GPS devices presently reporting and has altered the polling rate (time lapse between reports) to once per minute. The Department has also required

the contractor to place GPS devices on the sweepers, and that copies of the GPS operation reports are submitted with the contractor's monthly billing.

The Department is also linking the GPS output to CAGIS and will use mapping on this tool to review daily routings, create a historical data base, and over time generate data that will be used to optimize the sweeper assignments.

Recommendation 4

The Department disagrees with the statement that it did not hold formal meetings between the employees and management to discuss the sweeping effort. Agendas for these meetings are attached. The need for the meetings gradually decreased as the program settled into a routine after the change order was approved. Late in 2005 and for most of 2006 issues relative to the street sweeping program were discussed, as they came up, in the Labor Management Committee (LMC) forum. The Department did not utilize a separate sub-committee for this express purpose during that time. It will become necessary to hold these meetings again now that it is likely that a new proposal will be needed in 2007.

Recommendation 5

The decision on pricing for street sweeping productivity depends greatly on the frequency of sweeping. This is clearly shown in the differences between the per curb mile bids for the daily sweeping within the Central Business District and the much less frequent sweeping on the residential streets. The employee team bid for the residential program was \$34 per curb mile while the closest private competitor bid \$280 per curb mile. This factor deserved more attention in the audit report. The employee team bid was put together with some expectation that there would be an overall award. The City expected some economies of scale that were not realized and was forced to adjust its proposal to match, as best as was practical, the resources provided to the program. This became the requested "change order" as indicated in the November 29, 2004 request, which was approved as indicated in the audit report. Any change back to the use of curb miles should only occur if a new RFP and proposals are requested.

It is also recommended that any future managed competition in the street sweeping function be established in a way to provide an "apples to apples" comparison for services. Given the current arrangement, one cannot be assured of the proper pricing for infrequent sweeping. It is the Department's belief that the pricing as reconfigured for swept miles is competitive, and that the inability to complete curb miles as indicated within the audit report is directly related to the lack of resources to achieve that desired result.

Recommendation 6

The concept of routing sweepers on residential streets does have merit but was not part of the employee team bid or required by the RFP. The employee team believed its approach to scheduling which developed from input from its citizenry first, and then completed sweeping miles nearby, was preferable to adhering to strict routes and schedules.

The employee team used the Neighborhood Improvement Program (NIP) schedule to proactively guide sweeping efforts. The NIP inspector performed street-by-street inspections of every community over an 18-month rotation schedule, looking for dirty streets and other right-of-way maintenance issues. Since February 2006, 75% of all sweeping service requests came from the NIP inspector resulting in the routing of sweepers where they are most needed.

Information collected as a result of routing could be used to determine the frequency with which these streets should be swept and allow more consistent scheduling within the neighborhoods. If it is desired to fix routes, then this should be made a requirement of the next RFP. The employee team will carefully consider this concept and provide their recommendation by December 15, 2006.

Recommendation 7 & 8

There may have been some confusion about the use of Keep Cincinnati Beautiful (KCB) staff. In this program, KCB's primary role was to verify the quality of our street sweeping effort by independently checking the work to ensure that streets that were reported to be swept were actually clean. This measurement was never intended to give an overall cleanliness rating for the City, and we recommend that this specific street sweeping quality control continue.

The City also uses KCB staff to prepare a citywide cleanliness index each March. Although the trained observer ratings do not relate directly to street sweeping, the cleanliness of the curbs certainly impact the final scores. The citywide cleanliness index is prepared using a nationally accepted best practice of independent observers to rate 20 percent of the City's streets, randomly selected by KCB. The random sample is stratified to ensure that different land uses are represented. The observations are conducted by volunteers and include scores for the general appearance of the area observed. The scoring is based on a scale of 1 (no litter) to 4 (extremely littered). In 2006, the City scored 1.77 which reflects no to slightly litter. This is considered passing. Copies of the reports from KCB are attached and the department will discuss expanding their role for 2007.

It should be noted that KCB found definite correlations associated with the cleanliness of streets that indicated that some streets have a greater need for sweeping than

others. For example, streets with 5-unit or more apartment buildings were dirtier. This information will be reviewed for consideration in future scheduling

Recommendation 9

The report indicates numerous occasions where the same streets were swept at different times. The employee team believes that when this occurs, it is generally because cars have moved from a street they just swept or that someone had mowed grass or leaves onto the street after the sweeper passed. The Department will review the same daily logs for these time periods and create a spreadsheet to determine the precise frequency of this observation. Our review to date shows that what appears to be duplication of service may be a planned or normal occurrence. Some streets are swept by two sweepers at the same time, or in close proximity to address safety and productivity considerations, such as Kellogg and Hillside Avenues. Also, when more than one sweeper is in the same neighborhood, each may make a pass on the same portion of a through street when traveling to or from posted streets. There are also instances where one sweeper assists another in finishing streets, and will log the same street.

An additional note of caution about productivity numbers being correlated to sweeping frequency. It is generally accepted bidding strategy to apply an overall average of 12 curb miles swept per 8-hour shift. The range of productivity tends to be 8 curb miles per 8 hours shift for very dirty and infrequently swept streets to 25 curb miles swept per 8 hours shift on cleaner streets that are swept daily. The employee team sweepers that sweep daily in Over-The-Rhine have a daily productivity of 15 to 16 curb miles. Also, Elgin, who manufactures the sweepers the City uses, indicates that sweepers should not travel faster than 3 MPH to ensure that they sweep streets cleanly.

The Department recognizes that the City of San Diego has an excellent street sweeping program and will discuss this with them to see if any best practices they use can be applied to the City of Cincinnati's program.

Recommendation 10

The department staff put great effort into creating a work program using our Maximo software to account and track the sweeping effort. Unfortunately not all employees were trained to fully use this tool. The accounting staff completed a thorough review of the 2005 costs and processed ID billing to completely reconcile the accounts. In 2006, the department will strengthen its accounting controls to require more frequent reconciliation and pursue a simpler method to track personnel reassignments. This will result in a periodic report that will reflect the true costs of the street sweeping program.

Recommendation 11

The Department agrees that our internal cost accounting system rates within Maximo need to be reconciled with CFS on a more frequent basis. The department will implement accounting controls that require this review, and the inputting of adjustment at least quarterly.

Recommendation 12

The Department agrees that enhanced sweeping was not different than the sweeper program. For 2006 and beyond, all enhanced sweeping miles and costs will be combined in the street sweeping program.

Recommendation 13

A more thorough review of best practices and a confirmation of reasonable daily performance output based on sweeping frequency will allow the City to determine how much sweeping could be accomplished within the given budgeted programs. The Department will also pilot a fixed routing in a particular neighborhood and evaluate if expanding this effort City wide has merit. This background information will be quite useful in developing the next RFP and as indicated in our comments relative to the Executive Summary, a decision to extend the lease has been included in our budget submittal for 2007. This will also be evaluated as a part of a new RFP that will be generated in a time frame to allow a new award and program by August of 2007.

Attachments

- A. Ordinance No. 102-2004 on Parking Restrictions
- B. City Wide Litter Index
- C. Street Sweeping Assessment Guide
- D. E-mails Relative to Funding for Parking Enforcement Officer
- E. Mechanical Street Sweeping Issue Paper
- F. Employee Team Meeting Agendas